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New York, NY

The New York City Housing and Neighborhood
Information System (NYCHANIS)

1. Project Purpose

Problems

New York City is well known for the many challenges it faces in providing quality, affordable housing to the largest urban population in the United States. The situation has improved substantially since the 1970s, when housing disinvestment and abandonment were rampant and the city lost over 10% of its population. Yet a recent analysis we conducted using data from the American Housing Survey (AHS) and the New York City Housing and Vacancy Survey (HVS) confirms that in many ways New York City still faces substantial housing challenges. This is particularly true for the city's substantial number of low- and moderate-income residents and the housing- and community organizations that serve them.

Simply finding a place to live is a challenge for many New Yorkers, most of whom are renters. Rental vacancy rates have declined recently in the city, from 4.0% in 1996 to 3.2% in 1999, substantially lower than the national average of 7.4% in 1999. The tight housing market reflects the high demand for housing in the city, driven largely by immigration and a booming economy, coupled with the failure of housing supply to keep up with demand. Over the 1990s, the city issued certificates of occupancy for only 81,000 new units of housing. That total represents a maximum increase (ignoring losses) of 2.9% in the total housing stock during a period when the city's population grew by 9.4%.

Finding affordable housing can be even more difficult in this city of sky-high market rents. Despite the fact that nearly three quarters of New York City renters either receive some form of rent subsidy or have their rents protected from market-rate increases through regulation, 24.3% of renter households paid 50% or more of their income for rent in 1999, according to HVS data. This represents a slight improvement from 1996, when the figure was 25.3%. Nevertheless, over 600,000 New Yorkers still face these severe rent burdens.

In addition to being expensive and hard to find, a substantial proportion of New York's housing is of poor quality. According to the AHS, in 1999 7.6% of the units in the city had serious physical problems, much higher than the national rate of 2.0%. To be sure, housing quality is slowly improving in the city, but New York still has a substantial core of substandard housing units. These poor quality units are distributed unevenly across the city. According to HVS data, several neighborhoods, including Central Harlem, East Harlem, Bedford Stuyvesant in Brooklyn, and University Heights in the Bronx, have more than 10% of housing units with 5 or more maintenance deficiencies.

Today, the improvements that have been made in addressing these persistent housing problems are threatened by the difficult economic situation faced by the city. The national recession struck the city just before the terrorists struck the World Trade Center. These attacks caused not only tragic loss of life, but the loss of jobs, businesses and tax revenues. Many people in the city's housing community were advocating that property tax revenues from the Trade Center should be applied to affordable housing initiatives. Instead, those revenues are gone, the city faces substantial deficits, and city agencies have been asked to cut their budgets by 20% or more. These

crises have put housing problems on the back burner for local government.

Fortunately, New York City's affordable housing community is the largest, most sophisticated, diverse and vibrant in the nation. This community comprises a broad array of non-profit organizations, community groups, for-profit affordable housing developers, community-minded financial institutions and intermediary organizations. These groups work to provide quality, affordable housing to New York's low-income and minority populations through housing development projects, rehabilitation programs, housing advocacy, tenant and homeowner education, landlord counseling, and community development activities. Their efforts have made a substantial contribution to the improvements in housing availability, affordability, and quality we have seen over the past two decades. These groups are hampered, however, by a lack of access to relevant and timely information about housing and neighborhood conditions in their locales.

Since its inception in 1995, the Furman Center for Real Estate and Urban Policy at NYU has made extensive contacts with members of the New York City affordable housing community. Over the years we have responded to scores of requests for data and have developed an understanding of where the information gaps are. In 1996, in the course of developing an Early Warning System for the identification of residential properties at risk for abandonment, we conducted a series of three focus groups with representatives of organizations in under-served communities. These discussions revealed substantial needs for data to enable groups to monitor neighborhood conditions, assess community needs, organize local communities, and apply for government and foundation grants to fund their programs. In general, respondents reported that gathering data was often a difficult and costly process. Once organizations obtained the data they needed, they often had to spend a great deal of time aggregating, processing, and creating useful indicators from the raw data. Many organizations did not have the staffing or technical abilities to perform these tasks.

The situation has improved little since then. Ironically, there is actually a large body of useful data that is regularly collected by various agencies. The problem is that this data is not accessible. For example, the HVS is a sample survey of housing units in the city that is conducted every 3 years by the U.S. Census Bureau on behalf of the city. The survey collects data on housing costs, housing quality, household composition, and a variety of other indicators. Anyone who wants to use this data, which is freely available, must have the time and abilities to read raw ASCII data files, interpret technical codebooks, aggregate records to the neighborhood level, and perform the necessary calculations. Similarly, several city agencies collect data useful to housing and community organizations, including parcel-level data about building locations, size, age, zoning, property tax delinquencies, code violations, building permits, etc. Much of this data is technically available to the public, but the data sets are available only on reel tapes written in mainframe EBCIC format and require substantial processing. In effect, vast information resources are gathering dust rather than being put to use to aid low-income and minority communities because no one has taken the time to assemble, process, and make them available to the groups that need them.

Solutions

The New York City Housing and Neighborhood Information System (NYCHANIS) will

provide housing organizations and community development corporations (CDCs), as well as the general public, with the data they need to monitor neighborhood conditions, plan programs that will improve their housing and neighborhoods, and obtain funding for these programs from competitive private and public sources. The Furman Center already has a large collection of relevant data and has the technical expertise to process and transform raw data into useful neighborhood indicators.

The NYCHANIS project will go beyond simply publishing data, which we have recently done in our *State of New York City's Housing and Neighborhoods* report, and make data easily accessible to end users by creating a searchable web-based database. This web site will provide customized, on-demand access to the specific information that users require, and will provide the data in formats that end users most often need, including pre-formatted tables and spreadsheet files for further analysis. In addition, the NYCHANIS site will provide web-enabled mapping functions. Users will be able to create maps showing conditions in their neighborhood or in the entire city. They will be able to map any and all data elements available in the NYCHANIS system, query maps interactively, and to create printable maps.

Just as important as access to data are the skills and expertise users need to put data to work in improving housing and neighborhoods. Our NYCHANIS project will provide members of the NYC housing and community development community with training on use of the web site, sources of data relevant to their needs, the proper interpretation of the data, data presentation techniques, and strategic use of data for program planning. We will also post the training materials developed for these workshops on the web site.

In addition, we will work together with our partner, the New York City Department of Housing Preservation and Development (HPD), the city's housing agency, to create the Housing and Neighborhood Information Exchange. The Information Exchange will provide end users with two kinds of opportunities for meaningful interaction with housing experts from HPD. The Information Exchange will incorporate several issue-specific discussion forums where users can post questions and comments and receive responses from HPD as well as other users. In addition, the web site will host periodic real-time chat sessions with HPD officials dealing with programs and policies of interest to end users. HPD has agreed to commit one full-time equivalent employee to monitoring and responding to the discussion forums and participating in the real-time chat sessions. These interactions will provide opportunities for members of the NYC housing community to ask questions about HPD programs and policies and to provide comments and feedback about housing issues. This type of partnership between a city agency and a university, working together to assist community groups, is unprecedented in New York City.

Outcomes

The goal of the NYCHANIS project is to provide the tools that local housing organizations need to help their communities. We anticipate several types of outcomes from the project:

- Housing organizations and CDCs will be better able to plan future programs and make adjustments to their activities to better serve their local communities. For example, in neighborhoods such as Bushwick in Brooklyn, where housing quality has recently

declined, local organizations will be able to document these changes and respond with requests for more effective code enforcement, landlord counseling programs, maintenance training programs, or tenant organizing. The sooner that local housing groups become aware of quality problems, the greater the chance they will be able to prevent serious declines.

- Better data access will help local organizations to plan and fund needed programs. For example, in the Flatbush area of Brooklyn, a traditionally English-speaking Caribbean population is being replaced by an influx of Mexicans, Dominicans, and non-English speaking Haitians. Local groups may know this anecdotally from their work in the neighborhood, but in order to obtain funding for new programs such as multilingual outreach efforts or culturally targeted programs, they will need to document these changes to potential funders and back up their claims with hard data.
- Increased interaction between housing organizations, CDCs, and HPD will increase efficiency. Local groups will better understand HPD initiatives and policies and HPD will be able to respond more quickly to problems and concerns identified by local groups. Housing organizations will be able to share information about their neighborhoods as well as successful strategies for achieving their objectives. HPD will benefit from the feedback that local organizations provide and will be able to make improvement to programs and communications in response to this information.
- Housing organizations and CDCs will spend less time locating data, performing analyses, and obtaining information about housing regulations and programs. They will have more time to devote to program operations and strategic planning. And their planning will be more responsive to neighborhood conditions and needs, resulting in more effective programs.

From over 100 different housing organizations and CDCs in the city, we anticipate that most of them, 90% or more, will log on to the NYCHANIS web site. We expect that at least 50 organizations will use the NYCHANIS web site for data access and mapping in the first year and that the number will increase to 75 organizations by the end of the second year. We also anticipate that at least 30 organizations will send representatives to one or more training sessions in the first year of the project, and an additional 20 new organizations will attend training sessions in the second year.

Of those organizations that make use of the web site, we anticipate that the majority of them (50% or greater) will report that they have made use of data from NYCHANIS in their program planning, fundraising efforts, or both. We also anticipate that at least two-thirds of those organizations that use NYCHANIS to access data, create tables, or create maps of neighborhood indicators will report that the system saved their organization time and resources. And of those organizations that make use of the discussion forums or chat sessions, we anticipate that the majority of them (50% or greater) will report having useful interactions with HPD personnel and/or other users of the system.

The NYCHANIS web site will be freely available to anyone who wishes to use it. Therefore, we expect that the system will also be used by other types of community service organizations in the city, in addition to the housing and community development organizations we will specifically target. There are hundreds of such groups in the city, working on social problems such as health care, education, environmental justice, poverty, crime, employment, racial discrimination, and other issues. We expect that many of them will also find the NYCHANIS web site useful for learning about their communities and planning their programs. In addition, there are literally thousands of interested, involved citizens not affiliated with formal organizations who will find the NYCHANIS web site useful in their efforts to better understand and serve their communities.

2. Innovation

The most innovative aspect of the NYCHANIS project is the bringing together of a wide variety of housing non-profits, community development corporations, housing agencies, and intermediaries to design a system of information delivery and exchange. Several key organizations in the NYC housing community have agreed to serve as advisors to the NYCHANIS project. These include **HPD** (the city's primary housing agency), the **New York State Division of Housing and Community Renewal** (DCHR - the state's primary housing agency), the **Association for Neighborhood and Housing Development** (ANHD - an umbrella organization of non-profit housing organizations), the **New York State Association for Affordable Housing** (NYSFAH - an umbrella organization of for-profit affordable housing developers), the **Fannie Mae New York Partnership Office** (the local office of Fannie Mae), the **Local Initiatives Support Corporation** (LISC - a provider of grants, loans, equity investments, and technical assistance to CDCs for neighborhood redevelopment), the **Enterprise Foundation** (a foundation that supports affordable housing and community development organizations), **Los Sures, Inc.** (a CDC operating in the Latino neighborhood of Williamsburg, Brooklyn), **Hope Community, Inc.** (a CDC in East Harlem), and the **Northwest Bronx Community and Clergy Coalition** (a community organization fighting against housing abandonment, slumlords, crime, overcrowded schools, and redlining). (See the appendix for letters of support from these organizations.)

The NYCHANIS project will bring these groups together to design and implement a new system for the dissemination and exchange of data and information about housing and neighborhood conditions in New York City. Once implemented the project will continue to provide opportunities for productive interaction among housing organizations and agencies through on-line discussion forums, on-line chat sessions, and training workshops designed to help users get the most out of the system. Furthermore, the level of increased interaction and communication created by the project activities will likely continue far beyond the time horizon of this project.

The technology behind the NYCHANIS project relies on the world wide web to deliver a specially created set of tools that end users can immediately apply to achieve their organizational goals. The Internet is now a familiar tool to staff members at housing organizations and CDCs. The users of the system will gain unprecedented access to data without the requirement of

sophisticated data manipulation tools. They will also gain enhanced access to interactions with each other and housing experts at HPD without having to leave the office. This will be a new and valuable use of existing Internet infrastructure, coupled with the latest in web-enabled database access and GIS map production capabilities.

The involvement of HPD, the city's housing agency, in the NYCHANIS project is an unprecedented step in creating more productive connections between local authorities and community members. Never before has a New York City agency made this level of commitment to reaching out to work with the community.

3. Diffusion Potential

This project has great potential for diffusion to other communities that face housing problems and deteriorated neighborhoods. The problems we have identified are experienced widely throughout other cities in the U.S., and our solutions could be replicated by any number of communities. New York is the largest city in the U.S., and it has one of the most complex set of housing programs and regulations. Implementing the NYCHANIS system in New York and demonstrating its effectiveness will demonstrate to other cities that they can implement similar systems, too.

As part of the NYCHANIS project we will work to disseminate the details of our project to communities outside New York, along with our evaluation results and lessons learned from the endeavor. We will make formal presentations at least two appropriate conferences and meetings, and we will publish at least one article describing the project and its results in a national journal and at least one in a local or regional journal. Furthermore, we will make available to other communities any non-proprietary software products developed through this project.

Staff at the Furman Center have an established track record of success in publishing articles in highly regarded journals and making presentations at national meetings and conferences. Likely outlets for publications include *Housing Policy Debate*, *Cityscape*, *Journal of the American Planning Association*, *Journal of Urban Affairs*, and the *Urban and Regional Information Systems Association Journal*. Opportunities for presentations include meetings of the Society for Applied Sociology, the American Association of Geographers, the Association for Public Policy Analysis and Management, and the Urban and Regional Information Systems Association.

The NYCHANIS website itself will serve as a means of disseminating the model of information access and exchange incorporated in the project. The site will include information describing the inception of the project and the partnerships created to design and implement it. As the project progresses, we will add summaries of our evaluation efforts and describe our efforts to make the system more useful to the community. We will encourage our partners and other contacts in the national housing and community development communities to include links to the NYCHANIS web site so that people from across the country can learn about the NYCHANIS system and how a similar system might help their community.

4. Project Feasibility

This project uses proven technologies to achieve attainable goals. The vendors we will use to design and implement the web site are very experienced and have an excellent track record. Our own staff are highly experienced in data management, analysis, and applications of information to housing and community development projects. (See appendix for letters from consultants, resumes of Furman Center staff, and an excerpt from our publication, the *State of New York City's Housing and Neighborhoods, 2001*).

The data access and Housing and Neighborhood Information Exchange (forums and chat sessions) portions of the web site will be hosted on the main Internet server of the NYU Law School. Due to stability issues, the GIS map production software will be hosted on an additional server that will be acquired for this project. The GIS consultant will provide specifications for the server and will oversee installation of ArcIMS software. Regular maintenance of all parts of the web site, such as tape backups and troubleshooting, will be provided by NYU's Information Technology department.

At the end of year one, we will conduct a survey of both NYCHANIS users and groups to whom we reached out for inclusion but who have not yet made use of the system. We will supplement the survey responses with input from our advisory team and we will use this feedback to design modifications and additions to the system to make it more useful for its intended audience. For efficiency, we plan to use the same web design and GIS consultants to make the required modifications.

Our primary partner in this project, HPD, is highly enthusiastic and committed to the execution of the project. The other groups who have agreed to provide advisory support are also enthusiastic and anticipate tremendous benefit from this project. They are committed to providing the input and advice needed to make the project work. (Please see letters of support included in the appendix.)

We fully expect that a large number of housing organizations, CDCs, community service organizations, and private citizens will make productive use of the NYCHANIS web site to plan and provide services to New York's underserved communities. The web is now a familiar tool to the staff members of these groups and essentially all such organizations have access to the Internet in their offices. This project will expand the capabilities of a tool that these organizations are already using.

Furthermore, through our existing contacts and the help of our advisors, we are confident that we will be able to reach out to virtually every housing and community development organization in the city to let them know about the NYCHANIS project. The first activity we plan for the project is to host a meeting of representatives of these groups to discuss their needs for data and training and their wishes regarding discussion forum subject areas and chat session topics. We will use the information obtained from this meeting, combined with input from our advisors and our prior knowledge of data availability and current housing issues in the city to design the specific content of the web site and the discussion forums, data access, and GIS mapping functions that

will be available there. By first consulting with the city's housing community we plan to make the NYCHANIS system as useful as possible right from its inception.

The Furman Center is committed to continuing to collect and disseminate data and information about New York City's housing and neighborhoods as part of our research and outreach missions. Once the web site is created and established, additions of new and updated data will require only a small amount of staff time. The architecture of the NYCHANIS system will include provisions for the addition of new data elements and additional years of data. Even without additional funding beyond the two years of this proposed project, we are prepared to provide the personnel to make these updates for as long as the system is useful to the New York City housing and social service community.

5. Community Involvement

Community involvement is *the* goal of the NYCHANIS project. The initiation of the project comes directly from the New York City housing community, who have been telling us since our initial focus groups in 1996 that they need easier access to up-to-date data about housing and neighborhood conditions in the city. Our plan is to utilize as much input as we can get from these groups - first at the outset of the project and then at the end of the first year - to make the system as useful to them as possible.

Our advisors are representatives from key organizations that represent all components of New York's housing and community development communities, including city- and state agencies, representative of non-profit groups, and profit-motivated affordable housing developers. The NYCHANIS project will bring these organizations together, both online and in person, and increase their levels of interaction and information exchange.

Elsewhere in this proposal, we have described the agreements we have received from city- and state agencies, non-profit groups, and intermediaries to provide advice and guidance for the NYCHANIS project elsewhere in this proposal. We have also discussed the efforts we will make to reach out to local groups, involve them in the planning and design of the project, and help them do a better, more efficient job of assisting New York City's disadvantaged neighborhoods with housing and community development services.

6. Evaluation

There are several components to the evaluation of the NYCHANIS project. Our project begins by soliciting input from members of the New York City housing and community development communities. The information collected at this stage of the project will serve as a baseline against which to measure the project's achievements and how they measure up to users' needs and expectations. Once the web site is implemented, we will monitor its use by collecting data from server logs and creating periodic reports of the usage of all components of the site. Users will be asked to initially register with the site and provide their organizational affiliation. This registration will allow us to monitor how frequently organizations use the site and how different types of organizations use different components of the site. If certain components of the site are not

being used by their intended audience, we will become aware of this early on in the project and take steps to increase outreach or improve the site.

At the completion of each training workshop session, attendees will be asked to complete an evaluation of the workshop. Questions will include evaluation of the quality of the workshop content, the appropriateness of the content for the audience, the quality of the workshop leader and any instructional materials, and suggestions for improvement. These evaluations will be anonymous so that respondents do not feel pressured to withhold any negative comments.

At the end of year one of the project, we will conduct a formal evaluation of the system to determine how satisfied users are and what additions or modifications they would like to see. This evaluation will be conducted through a survey of both users of the system and organizations that were included in our intended audience but that did not use the NYCHANIS system in the first year. We will use the results of this survey to plan modifications to the system to maximize its use by as broad a group of housing and community-based organizations as possible.

We will contract with a consultant who has not participated in the NYCHANIS project to conduct a full, formal evaluation. This consultant will be selected through a competitive process. The evaluating consultant will be given access to the server logs, contact information for users of the site and other members of the target audience, workshop evaluation forms, and the results of our year one evaluation survey. We expect that the consultant will utilize a combination of survey techniques, interviews with project advisors and participants, existing workshop evaluations, and analysis of server logs. The results of this evaluation will be distributed to our advisors so they can help us continue to improve the NYCHANIS system.

Although our evaluation strategies will utilize human subjects, we anticipate that an exemption under 15 CFR 27.101(b) may apply. NYU has a detailed IRB approval process in place which we will follow. Survey respondents will be responding as representatives of their organizations and will not be providing any data of a personal nature.